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XXV.—*Further Notes on the Birds of Southern Cameroon.*—
Part II. By G. L. BATES, M.B.O.U. *With Descriptions
of the Eggs* by W. R. OGILVIE-GRANT, M.B.O.U.

(Plates XI. & XII. and Text-figs. 16–21.)

[Concluded from above, p. 545.]

PLOCEUS PREUSSI.

Reichenow, Jour. f. Orn. 1892, p. 442; V. A. iii. p. 36.

Phormoplectes dorso-maculatus (nec Reich.), Sharpe, Ibis, 1908, p. 349; Bates, Ibis, 1909, p. 43.

Nos. 2341, 2438, 2826, 3685. All ♂ ad. Bitye.

No. 3364, ♂ ad., and 3363, ♀ ad. Assobam.

No. 4122, ♀ ad., and No. 2439, young. Bitye.

The young bird has no black on the head, the chin and sides of the head being brownish-yellow or yellow, like the rest of the plumage.

PLOCEUS DORSO-MACULATUS.

Reich. V. A. iii. p. 37.

No. 3017, ♂ ad.; No. 3016, ♀ ad. Bitye, 18th Aug., 1908.

The female (No. 3016) agrees in most respects with Reichenow's description, but has more yellow on the nape and back (a character which is probably variable); the dark parts of the plumage deep black, not "braunschwarz"

(a discrepancy possibly accounted for by the more worn condition of the plumage in the type) ; and the bill black, instead of pale grey, as in the type. The measurements are also a trifle greater :—bill 17, wing 79 mm.

The male (No. 3017), undoubtedly the mate of No. 3016—they were in company when shot, and both had enlarged breeding-organs,—is a bird of exactly the same size as the female, and is similarly coloured except on the head. It has the forehead and crown golden-yellow instead of black, and the middle of the throat is black, like the rest of the plumage.

The male of this species is here described for the first time.

PLOCEUS NIGRICOLLIS. [Ngas.]

Bates, *Ibis*, 1909, p. 43.

Nests of the Ngas have been found, with eggs or nestlings, in eight different months of the year, and in all four seasons ; but the greatest numbers were observed in August and September at the beginning of the principal rainy season, and somewhat smaller numbers in March at the beginning of the "little" rainy season. Insect food is probably most abundant in the rainy seasons. During the last two and a half years spent at Bitye, thirty Ngas's nests have been brought to me with the sitting birds, usually caught at night in the nest, but sometimes shot with bow and arrow in the nest. Some nests contained nestlings, others broken eggs ; but I have saved twenty-nine eggs as specimens. Only one clutch contained more than two eggs.

These nests all shew certain characteristics distinguishing them from those of other Weavers. They are a little smaller than those of *Ploceus amaurocephalus* and have well-formed entrance-tubes, usually extending from two to five inches below the bottom of the nest. They are always composed of the slender, tough, dry runners of the Convolvulaceæ, which grow abundantly in *bikótók*, and sometimes have grass interwoven. One nest was attached to a twig which had a wreath like the beginning of another nest higher up, as if the bird had begun to build there, and then left that

place and gone farther down on the twig. This wreath shews how a nest is begun—in the same manner as that described for *Ploceus cucullatus* ('Ibis,' 1909, p. 45).

My series of eggs shews a remarkable variation in colour and markings; but in one case only did those in the same nest differ. Two eggs (Nos. 284 & 285), one pure white, the other speckled, were found in the same nest. Even in this case I have reason to believe that they were not laid by the same bird; for, though the boy found three eggs in the nest, and one got broken, only two very distinct empty egg-sheaths were found in the bird's ovary, shewing that she had laid only two eggs. Another hen Ngas must therefore have laid an egg in the nest.

Most of the twenty-nine eggs vary little in size, the average measurements being 21×14 mm. One very elongate specimen (No. 464) was 23×14 mm. Two very small eggs (Nos. 540 & 541 from one nest) measured, respectively, 19×13.5 and 18×13.5 mm.

[In addition to the types already described ('Ibis,' 1909, p. 44), the more recent collections contain a number of examples which are uniform pale greenish blue.—W. R. O.-G.]

Nestlings have the inside of the mouth flesh-red-yellowish when very young, and the smaller margins of the gape white.

PLOCEUS OCULARIUS.

Reich. V. A. iii. p. 45.

Sitagra ocellaria Grant, Trans. Zool. Soc. xix. p. 280.

Nos. 2770, 3763, 4134. All ♀ ad. Bitye.

Nos. 3578, 4168, 4277. All ♂ ad. Bitye.

Nos. 3804, 4262. Young. Bitye.

All of my specimens have the crown a little greener and the pure yellow of the forehead less extended than in specimens of *P. ocellarius* from Ruwenzori and South Africa; otherwise they are similar. They are not *Ploceus brachypterus*. The young birds have no black about the eyes, and the bills are of a pale yellowish-horn-colour. This species is not very rare, and is found in *bikôtôk* or in grassy places.

No. 3763, a female shewing evidence of sitting, was brought to me with a nest in which it had been shot with bow and arrow. This nest differed from those of the other common species of *Ploceus* in that it was not attached at the sides, but suspended by a sort of woven stem, while in the shortness of the entrance-tube it resembled nests of *P. nigerrimus*. The material used was apparently very narrow strips of palm-leaf. The two eggs in the nest (Nos. 236 & 237) measure respectively 21.5×15 and 21×14.5 mm.

[The eggs are of a regular oval form and without gloss. The ground-colour is pale greenish-blue, rather sparingly marked with spots and blotches of brownish-grey and lilac-grey, the markings being most numerous in an irregular zone round the larger end.—W. R. O.-G.]

PLOCEUS NIGERRIMUS. [Eyelesô.]

Melanopteryx nigerrimus Sharpe, Ibis, 1908, p. 350;
Bates, Ibis, 1909, p. 46.

Malimbus nigerrimus Grant, Trans. Zool. Soc. xix. p. 270;
Ibis, 1908, p. 278.

This is a black species of *Ploceus*, and not a *Malimbus*. (1) Both the young birds and the females have plain Sparrow-like plumage; in *Malimbus* the young and females have the colours like those of adult males, though differently arranged. (2) *P. nigerrimus* is gregarious and granivorous, like *P. cucullatus*; all species of *Malimbus* are shy, forest-haunting birds, building solitary nests, and feeding entirely on insects. (3) *P. nigerrimus* has a bright yellow iris, like *P. cucullatus*; in *Malimbus* the irides are invariably dark brown. That the totally black plumage of *P. nigerrimus* is a recent acquisition is indicated by the frequent occurrence of a few light feathers among the black ones on the abdomen or under tail-coverts.

Nests of this species and of *P. cucullatus* are often found in the same colony, and are so much alike that it is difficult to distinguish them, but the nests of the Black Weaver are rather more compactly woven, and have shorter entrance-tubes, finished off evenly with the bottom of the

nest itself, while in nests of the Black-and-Yellow Weaver the tube extends downwards a little below the bottom of the nest. Four eggs (Nos. 176-9) were taken from two nests pulled down, with many others, from a colony in two palm-trees, which I am sure, from having watched it for several days, contained only birds of the black species. One pair measure 25×16 mm.; the other pair 23×16 and 22×15.5 mm. respectively.

[The eggs are of a rather pointed oval form, devoid of gloss, and of a uniform deep bluish green.—W. R. O.-G.]

Among the different types of eggs of *Ploceus cucullatus* (see 'Ibis,' 1909, p. 44) none resembles the eggs above described. Hence in a mixed colony of the two species there are about four very distinct types of eggs, a circumstance that must aid each hen-bird in finding her own, to the benefit of the race.

PLOCEUS MAXWELLI.

Melanopteryx maxwelli Alexander, Ibis, 1903, p. 355.

See note under *Melanopteryx nigerrimus* Bates, Ibis, 1909, p. 47.

Many additional specimens have now been obtained at Bitye, like those to which attention was called in my note in 'The Ibis' (*l. c. supra*), and I have no longer any doubt about their identity with Alexander's *M. maxwelli*.

There is a remarkable variation in the colour of the immature birds that I cannot account for. Some have the plumage of the under parts entirely grey, while others have these parts strongly tinged with yellowish-olive, and in some the yellowish colour appears also on the feathers of the nape and the lores. Alexander noted this difference in his specimens, and attributed it to sex, describing the bird with the yellowish-olive in its plumage as the immature male, and the entirely grey one as the immature female. My specimens do not bear this out, as the amount of the yellowish tinge in different specimens varies in all degrees, and two having a large amount of this colour were females. On finding that the difference was not due to sex, I

supposed that it might be due to age, and that the young birds lost the yellowish-olive colour and became quite grey before moulting into the black plumage of adults. Though my first specimens supported this view, since only grey ones were found with new black feathers appearing, another specimen subsequently obtained and having much of the yellow tinge was also moulting into adult plumage. It can therefore only be said that immature birds of this species vary greatly in colour. A comparison with the well-known immature plumage of *P. nigerrimus* suggests that young birds of *P. maxwelli* with yellowish-olive in their plumage shew a reversion to a type of plumage more like the young of the former species.

All my specimens were shot with bow and arrow, after they had gone to roost, in flocks, in the tall grass. If, as is probable, this bird nests in colonies, like *P. nigerrimus*, it must choose nesting-trees in retired and out-of-the-way places.

AMBLYOSPIZA SATURATA. [Kô-esông.]

Sharpe, Ibis, 1908, p. 353; Bates, Ibis, 1909, p. 48.

Many more examples have now been obtained of this species, which seems sufficiently distinct, though closely allied to both *A. capitalba*, from Upper Guinea, and *A. melanonota*, from the Lake district.

One immature male (No. 3784) has a plumage scarcely differing from that of the female, but the differences are nevertheless interesting, since they foreshadow the most marked characters of the adult male plumage, namely, the white forehead, chestnut head, and the white wing-spots. The immature male has a tinge of chestnut mixed with white on the forehead, and a little greyish-white on the outer webs of the primary-quills. A male not yet breeding (No. 1415) has a plumage like that of the adult, but the light margins on the feathers are wider and more numerous, and the throat and crop are blackish, not clear chestnut. This seems to be an intermediate plumage.

No. 3879 is a bird which I do not understand. Both in its

plumage and its rather smaller size it is exactly like a female (not *nearly* like one, as is No. 3784); yet it was a *breeding* male!

The Kô-esông is a most lovable bird, in spite of its somewhat ungainly appearance and big bill. I have already described its pretty song and its admirably woven nests. The latter are made of fine shreds torn from the leaves of the big grass *Panicum plicatum*, the folds of the ribbed or plicate leaves of which are seized by the bird one at a time, all at the same height, and torn upwards to the tip, leaving the grass-blade neatly and regularly shedded. About the end of July, a pair of Kô-esông began to build in some tall grass near my house. About the 1st of September I heard the singing of the male again, after it had been silent for some time, and that afternoon went to look at the nest. On peering among the cane-like grass-stems I saw a pretty sight. On the roof of their house were perched three young birds, nearly fledged, and the chestnut head of the father could be seen not far off, as he assisted at the *début* of his offspring. Forty-one days had then elapsed since the birds commenced building.

Additional eggs are exactly like those previously described.

SPERMOSPIZA GUTTATA. [Edumvin.] (Text-fig. 16, A, p. 590.)

Sharpe, Ibis, 1908, p. 347.

The small white spots which characterise the plumage of the lower breast and abdomen of the female are not found in young female birds, which have those parts of a uniform slate-grey washed with brownish. In several of my specimens, feathers having spots are mixed in varying numbers with the uniformly coloured ones, and it can be seen in some cases that the spotted ones are new and the others old.

A very young male (No. 4032) with the plumage only half-grown had the parts which are red in the adult dull dark brown. This young bird had the margin of the gape

thickened and yellowish-white, with two enlargements or gape-wattles in it on each side. The inside of the mouth was pale yellow, and there were three large black spots on the palate, with another small one on each side near the gape, as figured (text-fig. 16, A, p. 590).

The statement made by me in an early letter to Dr. Sharpe, and published in 'The Ibis' (1902, p. 90), that I had seen the Edumvin building in high trees in the forest, was a mistake, due to my confounding this bird with a *Malimbus*. The Edumvin is a humble bird, and spends its life in bushes near the ground. Two nests were found last year in such situations, besides one or two others not recorded.

These nests were loose globular piles of ferns with a central portion of grass-tops, in shape like those of *Estrilda*, with an opening at the side; some soft white pappus was placed inside for lining, and in one case some feathers that were not the bird's own. Each nest contained three white eggs devoid of gloss; those of one clutch measure 19 or 19.5 × 14 mm., while those of the other all measure 19.5 × 13.5 mm.

PYRENESTES OSTRINUS. [Edumvin.]

Sharpe, Ibis, 1908, p. 347.

An adult female (No. 3606) is a somewhat smaller bird than any of the others, which include males and females, and has a much smaller bill, the length of the culmen being 12 mm., and the width of the bill at the base the same, while in the other adult female the length was 15 and the width 16 mm. These birds were all from the same locality.

The gape-wattles and the black spots on the palate of an immature specimen (No. 3135) were much like those of *Spermospiza guttata* (cf. text-fig. 16, A, p. 590).

This Edumvin is found in swampy places overgrown with the sedges which the people used formerly to cut and burn to obtain salt from the ashes, and it feeds on their hard seeds. A sitting female (No. 4347) was brought in with a nest, which was said to have been found in such a place. The nest was a large globular mass of dry broad strips of

leaves of the *Calamus* palm, laid or woven together loosely, with an opening at one side, and lined with a few fine grass-tops.

The three eggs (Nos. 536, 537, & 538) found in the nest are white, without gloss, and measure respectively :—20 × 14, 19·5 × 14, and 19 × 14 mm.

QUELEA ERYTHROPS.

Reichenow, V. A. iii. p. 111.

No. 3433. ♂. Bitye, February 1909.

This single specimen, the only one I ever saw, was shot with bow and arrow by my boys, who said it was in a flock with other small Weaver-birds.

PYROMELANA FLAMMICEPS. [Kulesô.] (Plate XI. fig. 8, egg.)

I have mentioned ('Ibis,' 1909, p. 49) the characteristic of the nests of the Kulesô, that the entrance or vestibule appears unfinished. Of several nests found since, three had no continuous tube at all, but consisted only of the sack part, woven in connexion with a vertical wreath attached to the weed-twigs, which formed the foundation of the nest.

With one nest, containing two eggs, were brought *two* female birds, both said to have been caught in the nest at night. One had a marked brood-spot, the other had none, but was found on dissection to have recently laid eggs. As the eggs were alike in every particular, and both partly incubated, they must have belonged to the bird with the brood-spot. The other seems to have gone into the wrong nest for the night.

A nestling, beginning to get its feathers, had the inside of the mouth deep fleshy-red and the swollen margin of the gape white. Very young nestlings had the colour inside the mouth not nearly so bright.

Of five clutches of eggs saved since those previously reported, three consisted of two eggs each, two of three each. The measurements of these vary from 19 to 17·5 mm. in length and from 14·5 to 13 mm. in breadth.

[Some of the specimens recently collected are uniform

deep greenish-blue, the few scattered rounded black spots or dots being entirely absent (*cf.* 'Ibis,' 1909, p. 50).—W. R. O.-G.]

SPERMESTES CUCULLATA. [Aseleke.]

Sharpe, *Ibis*, 1908, p. 345; Bates, *Ibis*, 1909, p. 50.

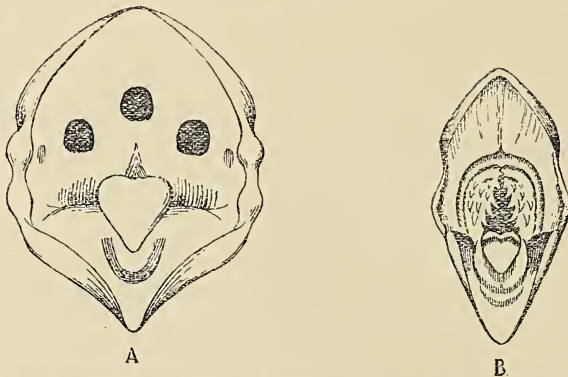
A pair of this Aseleke began to build, in the month of August, inside an old nest of *Ploceus cucullatus*, in a palm-tree standing within a few feet of my house, after I had exterminated or driven away the birds of the latter species from the tree. The little fellows flew backwards and forwards very rapidly between the old nest and a patch of big grass, bringing each time a bit of grass-top and entering the nest with it. But, unfortunately, they discovered me watching them, and abandoned that nesting-place.

SPERMESTES POENSIS. [Aseleke.] (Text-fig. 16, B, p. 590.)

Sharpe, *Ibis*, 1902, p. 96; 1908, p. 344; Bates, *Ibis*, 1909, p. 51.

Young birds of this species differ greatly in plumage

Text-fig. 16.



A. Mouth of young *Spermospiza guttata* (from a sketch by the author), see p. 587. B. Mouth of nestling *Spermestes poensis*, see p. 590.

from adults, being brownish-black above, smoky-brown beneath, and lighter brownish-buff in the middle of the breast and abdomen. Some specimens have some of the

glossy black and spotted feathers of the adult plumage appearing among the brown ones, proving them to belong to this species and not to *S. cucullata*.

Three young nestlings that were brought to me with their nest, in November, had peculiar mouth-markings. These consisted of a white ridge on the palate, shaped like an inverted letter U, bordered on either side by a black line; some similar marks under the tongue; a black band across the base of the tongue; and a white swollen gape-margin. The accompanying figure (16 B) was drawn from one of these young nestlings, which was preserved in spirit. In order to shew the inside of the mouth, both above and below, the artist had to represent the mouth as opened to an extent impossible in reality; the mouths of these thick-billed Weaver-birds cannot be opened wide.

HYARGOS SCHLEGELI. (Text-fig. 17, A, p. 594.)

Reichenow, V. A. iii. p. 159.

Pytelia schlegeli Sharpe, Ibis, 1908, p. 346.

Young birds of both sexes have the under parts uniform grey washed with olive, and gradually acquire the spotted adult plumage, different specimens shewing various proportions of uniform and spotted feathers, just as in the case of *Spermospiza guttata* mentioned above.

Adult females have spotted under parts just like the males, though the colouring of the heads is different in the two sexes.

An immature specimen (No. 4057) had the mouth-markings of the nestling still very distinct. These are shewn in text-figure 17 A, which was drawn from my sketch and description, made when the specimen was freshly killed.

NIGRITA BRUNNESCENS.

Reich. V. A. iii. p. 167.

Nigrita bicolor Sharpe, Ibis, 1908, p. 345.

Female specimens are of a lighter colour than males. Immature birds are still lighter than adult females; one specimen, No. 3738, ♂ imm., has a pale plumage in which some new feathers of the deep, rich colour of the adult are

appearing. Young birds of this species have the inside of the mouth marked in a manner very similar to those of the various species of *Estrilda* (cf. text-fig. 17, p. 594).

Most of my specimens of this bird were snared on ripe bunches of palm-nuts, the oily husks of which are a favourite food of this and many other birds. The stomachs of specimens shot contained small caterpillars. An incubating female (No. 3119) was brought to me alive, with a nest and five eggs. The nest was much like that of an *Estrilda*, but larger, and was composed of a loose mass of dried leaves, lined with a more compact structure of grass-tops; it was placed in a forked twig of a small tree. The eggs are perfectly white, with little or no gloss, and measure 16×11.5 mm.

NIGRITA LUTEIFRONS.

Sharpe, Ibis, 1908, p. 346.

In this species the iris is greyish-white or greyish cream-coloured. A young specimen, No. 4431, has the plumage even more nearly uniformly grey than the adult female, since it lacks the black around the eye and the whitish colours on the forehead. This young bird had the margin of the gape black, with four white warts or wattles, one just at the angle of the gape and two above and one below this; there were spots on the palate and tongue like those of *Estrilda* (cf. text-fig. 17, B & C, p. 594).

In the paper by Sharpe in 'The Ibis' (*l. c. supra*) specimens of this species are mentioned from Efulen, but none from the Ja. Specimens have now been obtained at Bitye and at Assobam. These were not secured, as were most specimens of the other species of *Nigrita*, by means of snares placed on or under palm-trees, but were shot; their food was found, in every case recorded, to have consisted of scale-insects or *Cocci*.

NIGRITA FUSCONOTA.

Reichenow, V. A. iii. p. 163.

Nigrita pinaronota Sharpe, Ibis, 1908, p. 345.

In this species the iris is dark brown. Young birds have

the plumage of the upper surface of the head merely of a darker brown than that of the back, without any lustre. They have mouth-markings like those of *Estrilda* (cf. text-fig. 17, B, C, p. 594).

A female (No. 3827; oviduct enlarged) was brought to me with a nest. The bird had been struck with the head of a spear as it emerged from the nest, which was placed in the axil of a palm-frond, too high for the boy to reach it with his hand. The nest was composed of the fine fibres of dry plantain leaf-stalks, and, though much disarranged, seemed to have been shaped like those of *Estrilda* and of *Nigrita brunnescens* mentioned above. Thus the statement of natives, given in a note under this species ('Ibis,' *l. c. supra*), that the remarkable felt nests sometimes found, resembling those of the Penduline Tit, are nests of this species or *N. brunnescens*, is proved to be a mistake.

The nest above described had contained three eggs, but two were broken; the third, which is pure white and without gloss, measures 14.5×10.5 mm.

ESTRILDA OCCIDENTALIS.

Sharpe, Ibis, 1908, p. 343; Bates, Ibis, 1909, p. 52.

A young bird of this species was noted with mouth-markings similar to those of the species of *Estrilda* (cf. text-fig. 17, p. 594).

A sitting female (No. 3936) was caught in the nest, which was of the usual water-bottle shape characteristic of the small Spermestinae; the five eggs were also exactly like those of *Estrilda atricapilla* already described ('Ibis,' *l. c. supra*). These eggs vary only from 13 to 13.5 mm. in length, and all are 10 mm. in width.

ESTRILDA NONNULA. (Text-fig. 17, B, p. 594.)

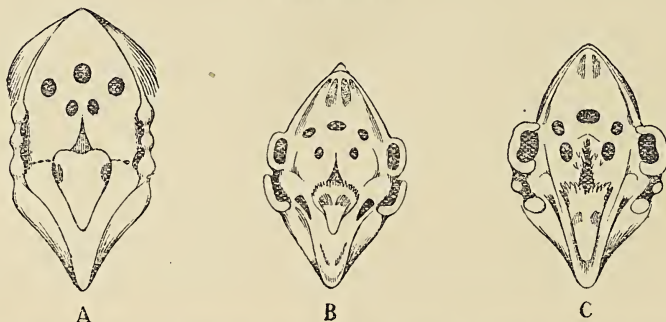
Sharpe, Ibis, 1908, p. 344.

This is the commonest species of *Estrilda* at the Ja, but was not found at Efulen.

Six nests with eggs or nestlings were brought to me: five in the month of September and one in November. All but one were accompanied by a sitting female bird, caught

in the nest; one nest was brought with a male bird with large breeding-organs, which had been imprisoned by the drawing tight of a noose put loosely over the neck of the nest while the bird was away. Along with one of the nests two hen birds were brought, said to have been caught together in the nest: one shewed the usual evidences of sitting, the other did not. These nests were like those of *Estrilda atricapilla* already described ('Ibis,' 1909, p. 52).

Text-fig. 17.



- A. Mouth of young *Hypargos schlegeli* (from a sketch by the author), see p. 591. B. Mouth of nestling *Estrilda nonnula*, see p. 593. C. Mouth of young *Estrilda melpoda* (from a sketch by the author), see p. 595.

None came to me with such an additional nest joined to it as that there described; but in one case I was told that there had been such an additional nest which was not brought. In this case the eggs were in the main nest, and the addition was empty: the boy called it the place where "the cock bird sleeps." Another of these nests of *Estrilda nonnula* shown to me had a sort of rudimentary or unfinished addition at its base.

One of the nests above referred to contained, besides the mother bird, five young and naked nestlings. The mouth of one of these, that was preserved in spirit, is here figured. Note in the figure (17 B) also the "egg-tooth" on the tip of the bill.

The number of eggs brought in a nest varied from three to six. Nineteen eggs that were measured vary in length

from 13 to 15 mm. and in width from 10 to 11 mm., the average size being nearer the smaller than the larger limit.

ESTRILDA ATRICAPILLA.

Sharpe, *Ibis*, 1908, p. 343 ; Bates, *Ibis*, 1909, p. 52.

The mouth-markings of several young birds of this species, that were noted, resembled those of the other species of *Estrilda* (*cf.* text-fig. 17).

ESTRILDA MELPODA. (Text-fig. 17, C, p. 594.)

Sharpe, *Ibis*, 1908, p. 344 ; Bates, *Ibis*, 1909, p. 52.

A young bird, with plumage not yet grown (No. 4452), had very distinct mouth-markings. These are shown in the figure, which was drawn from my sketch and notes made before skinning the bird.

SERINUS PUNCTIGULA. [Odibetaa.]

Sharpe, *Ibis*, 1908, p. 341.

Serinus icterus Sharpe, *Ibis*, 1908, p. 342.

My birds are undoubtedly the same as those collected by Zenker, not very far away, which Reichenow described as *Serinus punctigula*. But they do not all shew the characters by which he distinguished the species, viz., the white chin and the blackish dots on the throat. Three out of sixteen specimens have pure yellow chins and throats ; these are all adult males. The remainder include birds of both sexes, some immature and some apparently adult. It may be that the dots are lost and the chin becomes yellow with age, and perhaps in males only. All my specimens have the backs of a much brighter green colour than most specimens of *S. icterus* from S. Africa ; they have also less white on the tips of the rectrices.

This Yellow-fronted Canary has a pretty little song.

A young bird (No. 4482) has downy tips still adhering to some of the feathers. It was one of two in a nest in a bunch of plantains, and both flew out when I put up my hand to take them. This young bird had the inside of the mouth dark, contrasting with the yellow inside of the bill and

yellow margin of the gape, which together formed a conspicuous yellow circle when the mouth was opened wide. It is a curious fact that this nestling's stomach contained sand : as the young one had probably never been out of the nest before, the old bird must have procured it.

The nest above referred to, and another nest brought with a sitting bird of this species and fragments of a broken egg, were little cups somewhat rudely built of fine fibres of dry bark of weeds or plantain leaf-stalks.

EMBERIZA CABANISI. (Plate XI. fig. 11, egg.)

Sharpe, Ibis, 1908, p. 342 ; Bates, Ibis, 1909, p. 54.

The food of this Bunting consists of small grasshoppers.

A young bird with the plumage half-grown (No. 4314) shews some interesting differences in coloration from the adult. The adult has a white throat, white wing-bars, white superciliary stripes, and white ends to the outer tail-feathers. The last character—that of the white in the tail—is common to all species of *Emberiza*, while the other white markings belong to this species alone, or to it and one or two others. These peculiar white markings of the species are replaced by brown in the young bird, while the outer tail-feathers are white as in the adult.

A pair of these birds had a nest and reared their young in a bunch of plantains in full view of my house, though they were so shy that they were seldom seen. Two other nests were found and brought to me with the birds. These nests were shallow and loosely built of dried leaves and small stems, with a few finer fibres inside. One that came *in situ* on the branch was set in thick foliage. In one of the nests was the nestling above described ; in the other were two eggs (Nos. 452, 453) measuring 22×15.5 and 21×15.5 mm.

[These eggs are of a rather wide regular oval shape, and very slightly glossy. They are dull white, with long irregular fine scrawled lines and blotches of pale umber-brown and pale grey, most of the grey shell-markings being very indistinct.—W. R. O.-G.]

CRINIGER CALURUS. (Plate XI. fig. 3, egg.)

Sharpe, *Ibis*, 1904, p. 632; 1907, p. 458; Bates, *Ibis*, 1905, p. 96.

This is one of the few strictly forest-birds of which the nest has been found. A sitting female (No. 3916) was brought alive, having been caught "on the nest" (birds of this species are never caught in snares). The nest was brought along with the branch of a forest-shrub on which it had been placed, among the long close-growing leaf-petioles. It was composed of small dry twigs, with a quantity of damp moss laid on them and a cup of fine blackish fibres inside. The interior of the nest was almost black, and there was an evident correspondence in colour between it and the dark eggs. The eggs (Nos. 343, 344) measure 23×16 and 22.5×16 mm.

[They are pyriform in shape and distinctly glossy. They ground-colour appears to be pinkish, but is almost entirely obscured by the dense chocolate-brown markings forming a nearly uniform surface.—W. R. O.-G.]

BLEDA NOTATA. [Olo-éjak.]

Sharpe, *Ibis*, 1904, p. 635; 1907, p. 461; Bates, *Ibis*, 1905, p. 97.

The colour of the iris varies in different specimens, corresponding only partially to difference of sex. All females seem to have the iris brown, but some males have it brown and some yellow, and those with brown irides include adult birds, with large breeding-organs, though perhaps they are rather young. In all specimens the bill is black above and light bluish-grey beneath, and the feet are light bluish-grey.

BLEDA SYNDACTYLA. [Nti-éjak.]

Sharpe, *Ibis*, 1904, p. 633; 1907, p. 459.

Iris brown; bill black above, pale grey beneath; bare skin about the eye pale bluish-grey; feet pale grey.

A young bird (No. 3728), with the plumage nearly grown, had the under part of the bill, the skin about the eye, and

the feet pale yellow. In the plumage the most notable peculiarity is that of ill-defined light tips to the larger wing-coverts, not distinct enough to form spots.

The Nti-éjak is another forest-bird of which I have obtained one nest only. A sitting female (No. 4456) was shot by Nkolo on its nest, which was "on some brush in the forest" and was a shallow, slight structure, composed of dark-coloured decaying leaves and sticks, with a few black rootlets and tendrils for lining. It was found in the wet season, on the 1st of November. The colour of the two eggs exactly matched that of the nest. One egg was broken, but the chick within was alive; the other measured 26.5×18 mm.; the young bird was extracted without completely spoiling the specimen (No. 600).

[The egg is somewhat glossy. The ground-colour is pale buff, almost obscured by dense blotches and markings of rich vandyke-brown and pale brown.—W. R. O.-G.]

PHYLLOSTROPHUS FALKENSTEINI. (Plate XI. fig. 15, egg.)
Reich. V. A. iii. p. 391.

Pycnonotus viridescentior Sharpe, Ibis, 1904, p. 638;
1907, p. 464.

Phyllostrophus viridescentior Bates, Ibis, 1909, p. 56.

My specimens appear to me to be of the same species as the bird from Laudana.

It is only lately that I have heard and seen this bird uttering its notes, for it is an unobtrusive and generally quiet species. Its notes sounded like those of *P. simplex*, but not so loud, and had the same peculiar tone as those of *P. leucopleura*, *P. simplex*, *P. flavigula*, and *P. orientalis*, which all sound like excited human talk. The type species of *Phyllostrophus*, which Levaillant called "Le Jaboteur," must have similar notes. This fact seems to shew that the genus is a natural one.

Three more nests, on which the sitting birds were caught at evening, have been shown to me, and resembled the one already described. They were set in forks of *ôkông* or cassava plants, and did not contain more than two eggs.

Four eggs (Nos. 188 *a*, 189 *a*, 241, and 316) vary in length from 22 to 24 mm. and in width from 16 to 17 mm.

[They differ somewhat from the green-grounded eggs already described ('Ibis,' 1909, p. 56) in having the ground of a pale stone-colour, but the markings are much the same.—W. R. O.-G.]

PHYLLOSTROPHUS SIMPLEX. [Nkes.] (Plate XI. figs. 12–14, eggs.)

Bates, *Ibis*, 1909, p. 57.

Bleda simplex Sharpe, *Ibis*, 1904, p. 632; 1907, p. 459; Bates, *Ibis*, 1905, p. 96.

At least a score of nests of this Nkes have now been found, and identified by the birds caught or killed in them. They are always placed on low bushes near the ground, in *bikôtôk* or gardens, a favourite breeding-site being the triple or quadruple fork of a cassava plant, or the similar fork of the big weed *Triumfetta*. They are shallow cups, rather rudely built, and very similar to other nests of Pycnonotidæ; but they have one invariable mark of distinction, for among the materials of the base or outside part a few dry tendrils of some wild or cultivated vine of the Gourd or Vine families are always to be found. The number of eggs in a clutch is invariably two. Most of the nests were found in the months of March, August, and September.

Nestlings have the inside of the mouth flesh-red, and the swollen margin of the gape pale yellow.

Seventeen eggs have been measured: two from two nests measure 26×18 mm.; these were the largest, though two others, from different nests, were wider— 25×18.5 mm.; the smallest one, afterwards broken, measured 22×16 mm.; the two smallest that were saved, both from one nest, measure 22.5×17 mm.

[A large number of eggs vary considerably in shape from a regular oval to a rather long oval. They are distinctly glossy. The ground-colour varies from white to pale stone-colour, and the Bunting-like markings consist of long

twisted well-defined lines, scrolls, blotches, and spots of rich vandyke-brown and faint lilac-grey. In one egg with a white ground the markings are all concentrated in a wreath of twisted lines round the larger end.—W. R. O.-G.]

PHYLLOSTROPHUS FLAVIGULA. [Nkes.] (Plate XI. fig. 10, egg.)

Bates, *Ibis*, 1909, p. 57.

Bleda flavigula Sharpe, *Ibis*, 1907, p. 458.

I have now learnt to distinguish the notes of this Nkes from those of *P. simplex*.

A few nests of this species have been brought, with the sitting bird caught or killed. Some of these nests were taken from higher situations than those of *P. simplex*, in small trees on cleared ground around villages. No tendrils were used in their construction. Other nests agree very well with the one already described (*l. c.*). The clutch consists of two eggs.

Nestlings have the inside of the mouth orange, and the swollen margin of the gape yellowish-white.

I have had unusual bad luck with the eggs of this species, and only two (Nos. 348 and 349) are perfect: both measure 24×16.5 mm.

[They are much more heavily marked than the broken one already described ('*Ibis*,' 1909, p. 57). The ground-colour is pale buff, almost obscured by dense blotches and markings of rich vandyke-brown and paler brown.—W. R. O.-G.]

PHYLLOSTROPHUS ORIENTALIS.

Bates, *Ibis*, 1909, p. 58.

Nos. 3144 ♂, 3178 ♂, 3220 ♀, and 3300 ♀. Assobam, Dec. 1908.

These birds are not *P. scandens*, and I think, by comparing them with the original description by Hartlaub and the figure (*Zool. Jahrb.* 1887, pl. xi.), that they belong to the species described from Emin's collection on the Upper Welle River as *P. orientalis*. The bird has been both seen and heard by me, and is one of those whose

eries cannot be mistaken. It was met with at several places near the River Ja, and at my camp at Assobam near the River Bumba, always among the *Raphia* palms or other vegetation on the banks of streams. The fact that it was first met with on the eastern margin, and then at the extreme western edge of the Congo river-basin, makes it probable that the bird's range follows all the streams of that system.

A female (No. 3220), with a very marked brood-spot, was shot on the nest, which was found by my boys in a tree over a small tributary of the Bumba. This nest was hung, rather than set, between the forks of a twig, attached by means of woolly-looking cobweb and black hair-like fibres, forming a net around the outside, which was of dry leaves and palm-leaf strips. The two eggs were received broken, and could not be measured; but they looked small for the size of the bird.

[They appear to have been of a slightly pointed oval shape, and somewhat glossy. The ground-colour is dull creamy-white or pale stone-colour, with suffused clouded markings of greyish, especially towards the larger end, and with overlying small spots and short twisted markings and lines of umber-brown, most of the markings being more or less fused and indistinct.—W. R. O.-G.]

ANDROPADUS INDICATOR. [Mali.]

Grant, Trans. Zool. Soc. xix. p. 384.

Bleda batesi Sharpe, Ibis, 1904, p. 634; 1907, p. 461.

Bleda indicator Sharpe, Ibis, 1907, p. 460.

Additional specimens clearly shew that, as Mr. Ogilvie-Grant has observed, the birds with the outer tail-feathers pure white, that were named *B. batesi*, represent the immature plumage of *B. indicator*. Two obviously immature birds were shot, in which the white rectrices have no dark tips. These two birds have another interesting peculiarity in that their rectrices are longer and more pointed than those of adults—a characteristic I have observed in the immature of many kinds of birds (see 'Ibis,' 1911, p. 502 & fig. 13).

Males of this species have the iris greyish or creamy-white, while females have the iris brown or brownish-grey. This fact was first noted by Mr. Jackson ('Ibis,' 1906, p. 539). A comparison of the recorded colour of the iris in my female specimens seems to shew the further interesting fact that in the younger birds it is browner, in the older greyer (or more nearly approaching the colour of the male.)

In the allied *Andropadus clamans* both sexes have the iris brown, but it seems to be of a lighter colour in the male.

ANDROPADUS LATIROSTRIS. [Otok.] (Plate XI. figs. 17-19, eggs.)

Grant, Trans. Zool. Soc. xix. p. 386.

Andropadus efulensis Sharpe, Ibis, 1907, p. 461; Bates, Ibis, 1909, p. 59.

Eurillas efulensis Sharpe, Ibis, 1904, p. 636; Bates, Ibis, 1905, p. 97.

In this species the inside of the mouth, in both young and adult birds, is yellow, passing far back into orange.

Several nests, all identified by obtaining the sitting bird, were found in the tangled undergrowth on the borders of the forest. They were loosely built, largely of dry leaves, and had a lining of the fine black hair-like fibres I have so often seen in forest-nests: I do not know their origin. One nest contained a single infertile egg, on which the hen bird seemed, from her condition, to have been sitting for a long time. This egg was remarkably small, measuring 19.5 × 14 mm. One of two larger eggs, of which the other was broken, measures 25 × 16.5 mm.; the other pair measure 20.5 × 21.5 mm. in length by 15 mm. in width. These eggs do not vary materially in their colour and markings from those already described.

ANDROPADUS VIRENS. [Otok.] (Plate XI. figs. 6, 7, & 9, eggs.)

Bates, Ibis, 1909, p. 58.

Eurillas virens Sharpe, Ibis, 1904, p. 635; 1907, p. 462.

Eurillas camerunensis Sharpe, Ibis, 1902, p. 94; 1904, p. 636; 1907, p. 462.

An adult male specimen exhibits a peculiarity in plumage which I take to be a remarkable individual variation, as I have never seen another like it. The feathers of the back are very finely cross-barred with a lighter shade of colour. Otherwise it is a perfectly typical example of *Andropadus virens*.

Nests of this Otok, which have been shown to me along with the sitting birds caught on them, were always composed largely of dry leaves, so that they fell to pieces readily when handled. They were found in the thickest places in *bikótók*, always near the ground. One had in it three nestlings, and the old bird (the male) had been shot with bow and arrow while feeding its young. These nestlings, as well as other young birds seen, had the tongue and inside of the mouth bright orange; but in this species much of this colour is to be seen also in the mouths of adults.

The number of eggs in six clutches, brought in the nest along with the sitting birds, was always two. They vary from 20 to 22 mm. in length, and from 14.5 to 15.5 mm. in width. The description already given of the first two eggs found ('Ibis,' 1909, p. 59) applies to all these eggs.

IXONOTUS GUTTATUS. [Ntyetyal.]

Sharpe, *Ibis*, 1904, p. 638; 1907, p. 463; Bates, *Ibis*, 1905, p. 97.

It has already been noted that the Ntyetyal feeds in small flocks. A specimen shot recently, with a marked brood-spot and other indications of sitting, was one of such a flock. The birds do not seem to wander far, but frequent one place, at least, where there are trees with the fruit on which they feed.

There is a marked difference in the colour of the iris in the two sexes; in the male it is brown, in the female greyish-white. Note that in this species it is the female, in *Andropadus indicator* the male, that has a white iris.

Two nests have been found, both in small trees: one contained a single nestling; the other two eggs, which were broken by the shot that killed the bird. The nests

were exactly alike in every particular: they were rather rude, slight, shallow cups, composed of dry leaf-petioles, bits of leaves and bark, with a slight lining of the rootlets of an epiphytic orchid, such as hang on trees. Both had the rims smeared over with the dried fruits upon which these birds feed, which had doubtless passed through the sitting bird's body. The bits of egg-shell found in the later nest, and sticking to the bird's breast-feathers, were thickly speckled and spotted with dark brown, the light yellowish ground-colour shewing but little.

PYCNONOTUS GABONENSIS. [Nkwe'ele or Kwalawata.]
(Plate XI. figs. 1, 2, 4, & 5, eggs.)

Sharpe, *Ibis*, 1904, p. 638; 1907, p. 463; Bates, *Ibis*, 1905, p. 98; 1909, p. 60.

This bird may be called *homely*, using the word both in its good and in its uncomplimentary sense. Though not a pretty bird, it is a most attractive one on account of its ways, and excepting the Common Weavers and the Sparrows, which thrust themselves on the notice of mankind, it is the most familiar bird of the country. A pair repeatedly raised a brood, or sometimes only one chick, near my house, building in the thick centre of the foliage of a palm-tree, from which I had exterminated the Weavers. I have yet another illustration of the theme already spoken on, that the Nkwe'ele is a versatile bird. Though neither it nor its kindred are formed for running or hopping on the ground, and I have never seen another Bulbul on the ground, yet on two or three days I observed a pair of Nkwe'ele hopping along in front of my house like Sparrows, but awkwardly and with evident effort. There is more than mere fancy in the statement that these birds try to do everything they see other birds doing. They certainly have more than ordinary avian intelligence.

Nests of *Pycnonotus gabonensis* are a little deeper than those of the species of *Phyllostrophus* described, and rather better constructed; they are usually made of tomentose leaf petioles or weed-stems with finer fibres inside. They are found on all sorts of wild and cultivated plants and bushes

about villages. I have recorded and saved the eggs of those nests only with which the sitting bird was brought. The bird was usually caught on the nest by boys in the evening; with one nest the boy brought both birds alive (a breeding male and a female with brood-spot), and stated that when he captured the latter on the nest, after dark, her mate came to defend her and was taken by hand.

Young birds have the swollen margins of the gape white and the inside of the mouth deep red. Adult birds have much orange-colour on the inside of the mouth.

Twenty-two eggs have been measured. The largest were two from different nests, each 24×17 mm.; the shortest were Nos. 515 and 515 *a*, from one nest, 20×16.5 mm. and 20×16 mm., but some eggs that were not so short were narrower than these, the narrowest measuring 21.5×14.5 mm.

[The recent collections include at least three types of eggs, which are very distinct from the ordinary fine-spotted form already described ('Ibis,' 1909, p. 60).

Nos. 501, 502. One pair has the markings larger and of an unusually brilliant maroon, very densely crowded towards the larger end.

Nos. 229, 230. In a second type the ground is pale pinkish-white, sparingly marked with small separate spots, blotches, and short irregular lines of light red and chocolate, with underlying rounded spots of pale lilac-grey.

Nos. 515, 515 *a*. In yet a third type the eggs are shorter and the ground-colour is pink and with markings much as in the last (second) type, but the surface-markings are more numerous and nearly all light red.—W. R. O.-G.]

ZOSTEROPS STENOCRICOTA.

Reich. V. A. iii. p. 432.

Zosterops senegalensis Sharpe, Ibis, 1908, p. 337.

No. 246. ♀. Efulen, 19 Nov., 1903. Length of wing 50 mm.

No. 4011. ♀. Bitye, 12 Nov., 1909. Wing 52 mm.

No. 4025. ♂. Bitye, 17 Nov., 1909. Wing 54 mm.

A specimen skinned by a native, Bitye, Nov. 1909. Wing 53 mm.

These are certainly not *Z. senegalensis*, from which they differ in several particulars. They agree in all points, including measurements, with the description of Reichenow's *Z. stenocricota*; they agree also with several specimens in Seimund's collection from Fernando Po in every particular except size. The birds from Fernando Po are larger, the length of the wing ranging from 55 to 59 mm., and the bill is much longer than in my specimens.

From the fact that these little White-eyes appear only occasionally, and that all obtained, both at Efulen and at Biteye, were killed in November, I suspect that they may be more or less migratory.

ANTHREPTES AURANTIUS.

Reich. V. A. iii. p. 445.

No. 4084. ♂ ad. Esamesa, R. Ja, January 1909. Bill black, grey at base beneath; feet slate-coloured.

CINNYRIS SEIMUNDI.

Grant, Bull. B. O. C. xxiii. p. 19.

Nos. 3006, 3620, 3955, 4106, 4184. All ♀. Biteye.

Nos. 3610, 3644, 4518. ♂ adult. Biteye.

CINNYRIS BATESI. (Plate XI. fig. 22, egg.)

Grant, Bull. B. O. C. xxiii. p. 19.

No. 3201. ♀. Assobam.

Nos. 3632, 3641, 3651, 4075, 4158, 4212. All ♀. Biteye.

Nos. 3540, 3650, 3652, 3655, 3736. All ♂, mostly with testes. Biteye.

Nos. 4335, 4336. Young. Plumage half-grown.

In addition to the characters well given in the original description, it may be noted that the rectrices are black with broad olive-green margins.

A sitting bird (No. 4158) was brought in the nest in which it was caught about 7 o'clock in the evening. This nest, though a hanging pocket-like those of all Sunbirds, differed from most in having no long fibres used in its construction, and no loose ends hanging down, and was composed of moss with a lining of fine down. The nest

was not very small, but the entrance was only the size of the finger (20 mm. in diameter). The nestlings (Nos. 4335 and 4336) were brought in another such nest. These had the inside of the mouth and tongue uniform orange, without markings.

In the nest first mentioned there were two eggs, but one was broken. The other (No. 476) measures 15 × 11 mm.

[It is of a rather short and somewhat pointed oval shape and devoid of gloss. The ground is pale pink mottled all over with darker greyish-pink; scattered all over the surface of the shell are a number of small spots and irregular marks of deep brown, with others smeared at the edges of paler yellowish-brown.—W. R. O.-G.]

CINNYRIS OBSCURUS. (Plate XI. figs. 20, 21, & 27, eggs.)

Cyanomitra obscura Sharpe, Ibis, 1908, p. 331; Bates, Ibis, 1909, p. 61.

Five more nests are now recorded, in which sitting birds of this species were caught or shot. These nests agree in every particular with the description already given; but one point may be added, by which nests of this and other Sunbirds may always be distinguished from those of *Smithornis* which they much resemble. In the latter long fibres or streamers hang down from the bottom of the nest; in Sunbirds' nests there are also long hanging streamers, but they come from about the mouth or entrance of the nest, like a beard, and not from the bottom.

The eggs in these nests always numbered two. All eggs measured have a width of 12 or 12.5 mm., but vary in length from 16 to 18 mm.

[They are of an ordinary oval shape, somewhat pointed towards the smaller end, and devoid of gloss. The eggs exhibit three very distinct types. In the first the ground is pale greenish-stone-colour mottled with yellowish-brown, and with somewhat rounded spots and blotches of dark brown with the edges blending into the ground-colour. In the second, the ground is greyish-white clouded with pale lilac-grey and with small spots and short dashes of

dark brown thinly scattered over the outer shell. In the third type the ground is greenish-white, finely and densely clouded, especially towards the larger end, with yellowish-brown and dull grey blotches, the latter being mostly arranged in a zone round the larger end.—W. R. O.-G.]

CINNYRIS VERTICALIS. (Plate XI. fig. 16, egg.)

Cinnyris verticalis Sharpe, Ibis, 1908, p. 339.

Sunbirds of this and other species used often to visit my Papaw (*Carica papaya*) plants, that are always full of blossoms. One would perch and rapidly insert its bill into each of the flowers within reach, then move to a new part of the cluster. What they get in these flowers I believe to be nectar and not insects, for I often looked over a cluster of Papaw flowers and have found no insects in them. Butterflies used to visit the same flowers in the same way. All Sunbirds eat small spiders, but they do not find these in flowers; and I have seldom seen true insects in their stomachs.

A nest, in which a sitting female of this species was caught in the evening, was like that of *C. obscura*, but even larger and more bulky, though those are also large for the size of the bird. The nest of *C. verticalis* had streamers a foot long hanging from the lower lip of the entrance. The two eggs in this nest (Nos. 462, 463) measure 18.5×13.5 and 18×13.5 mm. respectively.

[They are of a regular oval shape, slightly pointed towards the smaller end, and devoid of gloss. The ground-colour is pale pink, sparingly marked with small dots, spots, and short dashes of deep chocolate-brown and underlying clouded markings of lilac-grey. In one specimen these markings are scattered over the greater part of the shell; in the second most of them form an ill-defined zone round the larger end.—W. R. O.-G.]

CINNYRIS CYANOLEMUS.

Cyanomitra cyanolema Sharpe, Ibis, 1908, p. 339.

No. 4259, ♀, with a marked brood-spot, was brought with a nest and two eggs. This remarkable nest may be described as an exaggerated form of the Sunbird's hanging

nest, and might be likened to a *rope* three feet long with an enlargement two-thirds of the way down for the nest proper; but the materials are not twisted like a rope, and consist of small pieces of light twigs, weed-stems, and dry leaves, all held together by a tangle of the black hair-like vegetable fibres so often seen in nests. These fibres *grow* out of the bits of twigs, &c., and the bird had chosen such bits as had the fibres attached. The inside of the nest is lined with fine soft bark-fibres. The whole was hung on a thorny shrub. Both the eggs (Nos. 493, 494) measure 18×13 mm.

[They are of a rather long oval shape and devoid of gloss. The pale buff-coloured ground is almost obscured by dense mottlings of various shades of dark brown, which cover almost the entire shell.—W. R. O.-G.]

CINNYRIS JOHANNÆ.

Reich. V. A. iii. p. 485.

Nos. 2918, 4214. Both ♂ ad. Bitye.

The liquid contents of the stomach of one of these birds was tasted and found to be sweet. I believe that the principal food of the adults of all species of *Cinnyris* is the nectar of flowers, not insects. Remains of spiders, however, were found in the same stomach.

CINNYRIS CHLOROPYGIUS. (Plate XI. figs. 24–26, eggs.)

Bates, Ibis, 1909, p. 64.

Cinnyris preussi Sharpe, Ibis, 1908, p. 338.

I have seen this very common little Sunbird hovering before flowers in the manner of Humming-birds, but not for long at a time.

Females of this species (Nos. 4027, 4185, 4210) and two others not preserved, all shewing evidence of sitting or of recent laying, were brought with their nests. These were found in all seasons, the months being March, May, June, November, and December. The nests were made of the same materials as those of *C. obscurus*, with the addition of a decoration of white lichens on the outside and a lining of down like thistle-down.

The eggs are always two in number. They do not, as a rule, vary more than half a millimetre in either dimension from 15×11 mm., but one long, slender egg (No. 454, the fellow of which had been broken) measures 18×10 mm.

[Nos. 413, 414 have a somewhat different ground-colour to the rest, viz. pure creamy white, instead of bluish-white.—W. R. O.-G.]

CINNYRIS MINULLUS. (Plate XI. fig. 23, egg.)

Reich. V. A. iii. p. 487.

Nos. 3579, 3602, 3631, 3637, 3660, 3663, 3669, 3762.

All ♂ ad. Bitye.

Nos. 3544, 3632, 3642, 4166, 4194. All ♀ ad. or immature. Bitye.

Males. Wing 46–50 mm.; culmen 15–16 mm.

Females. Wing 43–45 mm.; culmen 14–15 mm.

Several years ago I noted that some of the specimens, as I supposed, of *Cinnyris chloropygius* were very small; and in April 1909, at a time when the *Tya'a* (*Leea* sp.) was abundantly in flower and the little Bulu boys were catching many Sunbirds with snares fixed on the flowers, I skinned a large number of these very small Sunbirds, and satisfied myself that there was a second but smaller species resembling *C. chloropygius*. In a large number of the latter measured the length of wing in the males varied from 49 to 53 mm., and the culmen from 17.5 to 19 mm.; in the females, wing 47 to 49 mm., culmen 17 to 18 mm. There is thus a marked difference in size, and especially in length of bill. It was noticed, too, that in the small males the red feathers of the breast had dark blue metallic tips, while in the larger ones they had not. Subsequently, I discovered in the 'Vögel Afrikas' Reichenow's very brief description of *Cinnyris minullus* from a single specimen collected by Zenker, in which he gives only one distinguishing character, viz., white under wing-coverts, and I found that this held in my smaller species (in males of *C. chloropygius* they are grey). Thus there are three good characters for distinguishing the males of *C. minullus* (which

my small birds seem to be): (1) the smaller size; (2) the blue tips to the red breast-feathers; (3) white under-wing coverts. Females I could distinguish from females of *C. chloropygius* by their smaller size only, and especially by their much shorter bills.

Nos. 4166 and 4194 were caught in their nests. These nests resembled those of *C. chloropygius* in construction, but were made of different materials, being composed of fine black rootlets and moss, stuck over with cobwebs, which hold many decorations of bits of whitish lichen, bark, dry leaves, and other scraps of dry vegetable matter. One nest contained one naked nestling, with the inside of the mouth orange, the tongue unmarked, and the swollen margin of gape whitish. The other nest, said to have been found hanging from two fern-fronds growing on the stem of a palm-tree (among the decorations on this nest were bits of dry male flowers of the palm), contained two eggs (Nos. 486, 487) measuring 15.5×10 and 14.5×10 mm.

[These eggs are of a rather long oval form and devoid of gloss. The ground is white with a greenish tinge spotted with dark ash-brown and blotched with dark lilac-grey, the markings being mostly arranged in an irregular ring round the larger end.—W. R. O.-G.]

ANABATHMIS REICHENBACHI.

Sharpe, Ibis, 1908, p. 340; Bates, Ibis, 1909, p. 63.

Nos. 3390, 3466, 3983. All ♂ ad. Biteye.

Nos. 3392, 3393, 3447, 3465, 3469, 3471, 3490. All ♀ ad. Biteye.

Nos. 3456, 3480. ♀ young. Biteye.

The adult females are smaller than the males, but exactly like them in every part of the plumage, even to the yellow pectoral tufts. The young birds represent two stages of immature plumage. No. 3480 is full-grown, with the bill as long as that of the adult; it is olive-green above, and the feathers of the crown have narrow metallic-blue edges; beneath it is yellow, but some new feathers appearing on the throat are metallic-blue, and some on the breast are

greyish-white, like the plumage of the adult. No. 3456, a younger bird with a short bill, has the head, throat, and neck dark olive-brown, but some yellow feathers appearing on the throat and sides of the head belong to the plumage corresponding to No. 3480. Birds in this intermediate plumage have evidently been mistaken for adult females (*cf.* Shelley, *Monogr. Nect.* plate 96).

All the specimens mentioned above were caught in February and the beginning of March by means of snares fixed on flowering shrubs. At most times this species seems to be rare.

CISTICOLA ERYTHROPS. [Tinkwat.] (Plate XII. figs. 14, and 18-23, eggs.) (Text-fig. 18, p. 613.)

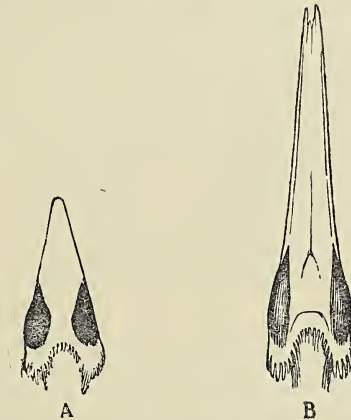
Sharpe, *Ibis*, 1908, p. 317; Bates, *Ibis*, 1907, p. 67.

Nos. 3116, 3890, and 4442 were immature birds, and No. 4527 was young with the plumage half-grown; these were all without the rusty brown colouring of the plumage about the head, and had the lores and sides of the head greyish-white. The inside of the mouth and tongue were orange-coloured, and the tongue had a pair of lanceolate black spots near the base at the edges. The tongue-spots do not entirely disappear when birds of this species become adult. In text-fig. 18, fig. A (p. 613) represents the tongue of a large nestling and B that of an adult bird. These figures and all those of birds' tongues were drawn from specimens preserved in spirit.

A large number of nests of the Tinkwat have been brought to me by boys, who find them in easily accessible bushes at the edges of the gardens, and so catch the sitting hen-birds in their nests after dark in the evening. I have already described these ingenious nests, but will here add that the felt-like lining of brown pappus varies in thickness, and is found to be thin and scanty when the eggs are fresh, and thick when they are nearly ready to hatch or when the nest contains nestlings. It is evident that the bird continues to line the nest after sitting has begun. The number of eggs is sometimes three, but more often two. About forty eggs

have been measured. They vary in length from 16·5 to 18·5 mm., and in width only from 12·5 to 13·5 mm. Those of one clutch are nearly always of the same width, though they vary in length. As these eggs vary greatly in colouring, it may be worth while to say that they are all identified as those of *Cisticola erythropus*, the sitting bird having been carefully compared in every case with my specimens. I was

Text-fig. 18.



Tongues of *Cisticola erythropus*, see p. 612.
A, of nestling. B, of adult bird.

the more particular to do this because, as I thought, there was more than one species of *Cisticola*; there were two at Efulen, but only one has been found at Bitye.

[In addition to the eggs which have already been described ('Ibis,' 1909, p. 68) we find examples with the ground pale greenish-white very finely mottled, and others with the ground creamy-white blotched and spotted with light red and lilac.—W. R. O.-G.]

CALAMOCICHLA RUFESCENS. [Oto'o-bisông.] (Plate XII. fig. 16, egg.) (Text-fig. 19, A, p. 614.)

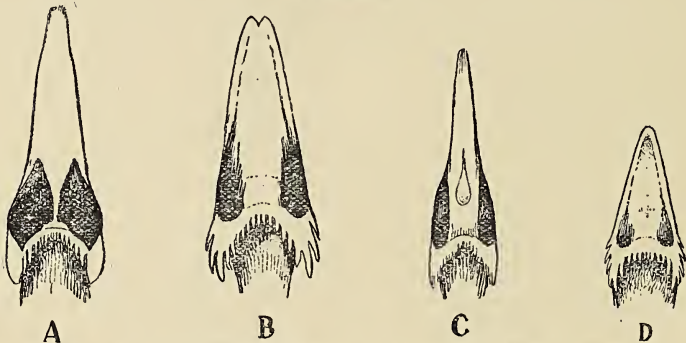
Neumann, Novit. Zool. xv. 1908, p. 244, ff.

Calamocichla poensis Sharpe, Ibis, 1908, p. 318; Bates, Ibis, 1909, p. 69.

Three nests of Oto'o-bisong have been found and brought

to me, one identified by the two large nestlings (Nos. 3713, 3714) and the others by female birds all shewing signs of sitting. These nests were deep cups made entirely of strips of the leaf-sheaths of the cane-like grass *ésông* (plural *bisông*), amongst which the birds spend all their lives and from which they get their Bulu name. These birds do not spare material in building their nests, and one which was in a

Text-fig. 19.



- A. Tongue of young *Calamocichla rufescens*, see p. 613. B. Tongue of nestling *Burnesia bairdi*, see p. 615. C. Tongue of half-fledged young *Prinia mystacea*. D. Tongue of nestling *Sylviella denti*, see p. 621.

very acute-angled triple fork of *ésông* had a base more than eight inches deep, all the angle being filled up to a height where it was large enough for the cavity of the nest.

The nestlings had the swollen margin of the gape whitish, the inside of the mouth orange-yellow, and a pair of large black tongue-spots.

Of the other nests one contained a single egg (No. 301) measuring 19×14 mm.; the other contained two (Nos. 592, 593) measuring 20×15 and 19.5×14 mm.

[Three eggs are of a rather wide oval form and almost devoid of gloss. They are white or pale greenish-white rather sparingly marked all over the shell with small spots and blotches of yellowish-brown, dark grey, and light grey, the markings being more numerous towards the larger end.—W. R. O.-G.]

BURNESIA BAIRDI. (Plate XII. figs. 11 & 12, eggs.)
(Text-fig. 19, B.)

Sharpe, Ibis, 1908, p. 326.

Prinia bairdi Bates, Ibis, 1909, p. 69.

Half a dozen nests of this species have been brought to me, each time with the sitting bird or with nestlings, since the two described already. They were placed in tangles of grass or bushes in the *bikótok*, and one amongst some of the big sedge called "*akwaé*" on the bank of the river. The description already given applies to all, except that the materials vary. This bird does not sew leaves together for the exterior. In one nest three nestlings were brought alive; when they opened their mouths the bright orange-colour and the black basal tongue-spots were very conspicuous. I fed these little birds with insects; each time, after swallowing, the little creature would turn around and void excrement on the side of the nest towards me, and upwards, but not over the edge of the nest; the parent bird would have removed it. The nest was clean when it was brought. The tongue of one of these nestlings is that figured.

Three is the usual number of eggs of a clutch in this species. A large number of eggs measure 16×12.5 mm.; none vary more than half a millimetre from this in width, but a few are longer, the limit in length being 18 mm.

[The eggs of this species have been already described, and additional clutches resemble those already examined. They are of two very distinct types, either with clouded markings or with finely freckled markings of some shade of chestnut; the ground-colour varies from pale bluish-green in the former type to bright blue-green in the latter.—W. R. O.-G.]

BURNESIA LEUCOPOGON. [Ose-minjombok.] (Plate XII. figs. 9 & 10, eggs). (Text-fig. 19, B.)

Sharpe, Ibis, 1908, p. 327.

A dozen nests of this species have been found and identified in the usual way, in all seasons except the very dry one. These have an even closer resemblance to each other than nests of the same species of bird

usually have. The bird seems to know no other building-site than a pair of the hanging long-elliptical leaves of the tall endogen, *Amomum* sp., which is abundant in old clearings. These leaves are sewn together into a deep sack, which is filled with strips of large grass-blades and fine fibres as a lining. The sewing is done with tough cobwebs, which are passed through holes punctured in the edges of the leaves, forming true stitches; at one side the edges of the leaves are joined, at the other left a little apart and connected by the cobweb-threads passing around the side of the nest. Nests of *Burnesia leucopogon* differ from those of *Cisticola erythrops* in shape, being deep and narrow, the bird always using only two rather narrow leaves; they further differ from the nests of the *Cisticola* in having no downy lining.

A pair of nestlings found in one nest had the inside of the mouth orange and two large oval black spots at the base of the tongue.

In only one instance were the eggs more than two in number; in the clutch of three, one egg differed somewhat both in shape and the proportion of the brown and the grey colouring from the others, and only two empty sheaths were discovered in the bird's ovary. The eighteen eggs measured, some of which only could be saved, did not usually vary more than half a millimetre in either dimension from 17×12 mm.; but a large one is 18×13 mm., and two very long ones from the same nest measure 18.5×12 mm. and 19×12.5 mm. respectively.

[Eggs of this species vary from a regular oval to a long oval shape and are devoid of gloss. The ground varies from pale greenish-blue to white, and is somewhat sparingly marked with rather large and distinct spots and blotches of reddish-chocolate or reddish-brown and various shades of lilac-grey.—W. R. O.-G.]

EUPRINODES RUFOGULARIS. (Text-fig. 20, A & B.)

Sharpe, *Ibis*, 1908, p. 320.

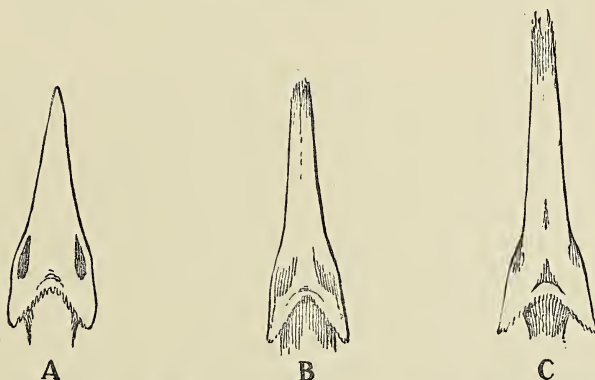
Euprinodes schistaceus Sharpe, *Ibis*, *l. c.*

Nos. 4136, 3009, 3272, 3313, 4064, 3996. All except the

first were adult males with large testes. Biteye and Assobam. Plumage of *E. schistaceus*. The above numbers are arranged so as to begin with a specimen that is ringed with green above and with yellow below, and end with one that is clear slaty-grey above and white below; the intermediate numbers represent all gradations between the two; but the difference in the whole series is slight.

Nos. 3245 ♀, 4198 ♂, 3913 ♀, 4488 ♀, 3604 sex?, 3301 ♂, 4021 ♂, 3628 sex? All immature. Biteye and Assobam. Plumage of *E. olivaceus*. In the first the under side is pale brownish-yellow and the upper side olivaceous:

Text-fig. 20.



A. Tongue of young *Euprinodes rufogularis*, see p. 616. B. Tongue of nearly adult *Euprinodes rufogularis*, see p. 616. C. Tongue of young *Apalis binotata*, see p. 618.

and in the last three the under side is nearly white and the upper side nearly grey. All intermediate gradations are represented in the numbers between.

No. 3343. ♀ adult. Assobam. (Similar ♀ specimens were previously collected at Biteye.) Plumage of typical *rufogularis*.

Immature birds similar to those mentioned above have been identified by Dr. Sharpe as *E. olivaceus*, and that species has been united by him with *E. rufogularis*. I have now to unite with it also *E. schistaceus*, which represents the male in adult plumage. This is done not only

because in a large series specimens with the plumage of *E. schistaceus* are all adult males, and those with the plumage of *E. rufogularis* females (I had sent others before), and because birds in all the different plumages have been shot in company with one another; but because further confirmation is found in two specimens in the Museum (Nos. 2057 and 2141) previously collected by me at Bitye. These were immature males, and the plumage is similar to that of the last three (Nos. 3301, 4021, & 3628) in the series given above, but *a few new slate-coloured feathers are appearing on the throat*, indicating the change to the plumage of *E. schistaceus*.

It is to be noted that immature males change, becoming greyer above and whiter below, before the final change into adult plumage.

This species seems to me to have a different aspect, on account of its extreme slenderness, from either of the species of *Apalis* which I know; and its habits are different, for it is a bird of the forest, and feeds in companies or *bijak*, while *Apalis binotata* and *A. jacksoni* have been seen in small trees of open country, seeking their insects singly. The separation into a separate genus, *Euprinodes*, therefore, seems to be a natural one.

In text-fig. 20, p. 617, A represents the tongue of a young specimen that was not skinned, and B that of specimen No. 4198.

APALIS BINOTATA. (Plate XII. fig. 15, egg.) (Text-fig. 20, C, p. 617.)

Sharpe, *Ibis*, 1908, p. 320; Bates, *Ibis*, 1909, p. 70.

A good many more specimens have been shot, for at Bitye it is not a very rare bird. The black on the crop of the males is more extended than in the females; in the latter there is only a black band running down the middle. The colour of the iris in all is brownish-yellow. Young birds (Nos. 3793-3889) have the heads above green like the back, and the feathers of the throat and chest slate-grey with white tips; the inside of the mouth and tongue orange, the latter with two small dark spots at the base near the edges.

A female (No. 4326), evidently sitting, was caught in the nest at about 8 o'clock in the evening. The nest was a hanging pocket composed almost entirely of the moss-like *Usnea* with a few cobwebs running through it to give it consistency, and a very few fine bits of grass-tops inside (just like that already described). Two eggs were in it, which measure 16 × 11 mm.

[The eggs of this rare species are of a long narrow oval form, blunted at the smaller end, and very slightly glossy. The ground is dull greenish-blue washed with rufous towards the larger end and marked with very small dots of light red with smeared edges.—W. R. O.-G.]

APALIS JACKSONI.

Reich. V. A. iii. p. 608.

Nos. 4079, 4081. ♂ ad.; 4082, 4086. ♀ ad. Irides of all dark greyish-brown. Esamesa, R. Ja, Jan. 1910.

All the examples were shot in the same place, and three of them in the same tree, a small Acacia-like tree near the village, where they were busily looking for insects in the foliage. The finding of this species forms another interesting link between the bird fauna of the district of the Ja and that of the Central African Lakes.

CAMAROPTERA GRISEOVIRIDIS. (Plate XII. fig. 13, egg.)

Sharpe, Ibis, 1908, p. 321; Bates, Ibis, 1909, p. 70.

My specimens vary greatly in the amount of white on the belly.

A pair of these little birds built a nest in the thickest part of the foliage of a guava bush near my house, so that I saw and heard them every day. Besides the loud sharp-toned notes already described, they had a lower call in a sort of whining tone of voice that was very peculiar.

A young bird (No. 4403), with the plumage not yet grown, had the swollen margins of the gape yellowish-white, the inside of the mouth orange, and a pair of large black spots at the base of the tongue.

This bird unites the green leaves of a spray, using any kind of tree or bush, to form the outside frame for its nest,

with one or more leaves for a roof, in the manner already described. Its building materials are so light, consisting largely of fine white down, that they scarcely bend down the leaves to which the nest is attached.

Seven clutches of eggs, brought in the nests with the sitting birds, consisted of two each, excepting one of three. They vary in length from 16 to 18 mm., and in width from 11 to 12 mm.

[Eleven eggs vary in shape from an ordinary oval to a rather long narrow oval form, and are somewhat glossy. The ground-colour is pale bright greenish-blue, either plain or sparingly marked all over the shell with small spots and dots of pale reddish-brown and lilac.

Two eggs are pure white.

Most of these eggs differ considerably from one taken by Mr. F. J. Jackson in British East Africa, and figured in the Transactions of the Zoological Society, xix. pl. xix. fig. 10 (1910), the ground of which is white with larger markings of yellowish-brown and pale grey.—W. R. O.-G.]

CAMAROPTERA CHLORONOTA.

Sharpe, *Ibis*, 1908, p. 322.

Nos. 3230. ♂ ad. Assobam. 3410, 3933, 4090. All ♂ ad. Biteye. These specimens have the throat greyish-white, and varying amounts of greenish colour on the chest and of white on the abdomen. Wing 53 to 58 mm.; tail 28 to 35 mm.

Nos. 3845, 4346. Both ♀ ad. Biteye. Throat greyish-white; chest tinged with greenish. Wing 50 and 53, tail 27 and 25 mm.

No. 4478. Sex? Biteye. Wing 52, tail 20 mm. (Probably ♀.)

No. 3323. ♂ immature. Assobam. Throat and chest pale brownish-yellow. Wing 55, tail 34 mm.

Nos. 3324. Assobam; 3668. Biteye. Both ♀ imm. Throat brownish-white. Wing 50 mm. in both; tail 27 and 20 mm.

Difference of age explains the variations of colour in the throat and chest; difference of sex may explain the shorter or longer wings and tails, except in two or three of

the females, which have remarkably short tails, though certainly fully grown.

A sitting female (No. 4346) was caught in the nest, which was also brought, with two eggs. This nest differed from those of *C. griseoviridis* only in that it was composed *entirely* of soft white down (pappus); there were some tough brown cobwebs running through and giving firmness to the soft down. The nest was attached to six leaves, three underneath forming a support, and three above forming a roof.

The eggs (Nos. 534 & 535) measure 17.5×12.5 and 17×12.5 mm.

[They are similar to those of *C. griseoviridis* described above, but with the markings rather larger and more distinct, much as in the clutch including Nos. 526, 527.—W. R. O.-G.]

CAMAROPTERA SUPERCILIARIS.

Sharpe, Ibis, 1908, p. 323.

Camaroptera flavigularis Reich. V. A. iii. p. 621.

No. 3952. ♀ immature. Bitey.

No. 3304. Sex? Immature. Assobam.

No. 3315. ♂ immature. Assobam.

Many adult specimens.

These immature specimens have the throat and chest yellow with varying amounts of white intermixed, and it may be seen that the white feathers are in moult, many being still partly in the sheaths. The bird with yellow throat and chest described by Reichenow as *C. flavigularis* must be the young of *C. superciliaris*.

A marked character of this species does not seem to have been noticed, perhaps because it is supposed to be due to injury of the specimens. There is a bare patch at each side of the throat, the skin of which is deep blue.

SYLVIELLA DENTI. (Plate XII. fig. 17, egg.) (Text-fig. 19, D, p. 614.)

Sylviella denti Grant, Bull. B. O. C. xix. p. 25; Trans. Zool. Soc. xix. p. 364.

Sylviella batesi Sharpe, Ibis, 1908, p. 319; Bates, Ibis, 1909, p. 72.

Two nests, like that already described, were brought to me, each with the old bird (Nos. 4036 & 4450) and a single nestling. Both nestlings had the inside of the mouth orange, and the tongue had a pair of black spots at the base (text-fig. 19, D, p. 614).

I myself found another nest, and saw the little Crombec enter and sit in its tiny hammock, seeing it plainly enough to be pretty sure that it belonged to this species. This nest was hung on a prickly bramble-like stem that extended horizontally over a little cleared space in the *ékótók*; it was not concealed, but inconspicuous from its small size and resemblance to a bit of trash hanging on the stem.

PHYLLOSCOPUS TROCHILUS.

Reich. V. A. iii. p. 644.

No. 4443. ♀. Bitye, October 19, 1910. Plumage worn; inside of mouth and tongue bright yellow and orange, without markings.

This is the first time I have obtained the Willow-Wren. The Wood-Wren, *P. sibilatrix*, already reported, has been obtained again, and so has the Garden-Warbler, *Sylvia simplex*.

GEOCICHLA BATESI.

Sharpe, Ibis, 1908, p. 123.

No. 3067. ♀. Bitye, August 1908.

The occurrence of this specimen, which was caught in a snare, extends the range of the species further east.

BATHMEDONIA RUFA.

Sharpe, Ibis, 1908, p. 122.

Though rather rare, this is a bird of *bikótók* and not of the forest.

In its lively motions and manner of cocking its tail forward over its back, it reminded me of *Cisticola* and *Prinia*; and I think, for this and for other reasons, that the natural place of the species is close to those genera.

Both males and females have the iris brown, the feet

blue, the bill black, and the naked or sparsely feathered skin of the throat blue.

Nos. 3745 & 3746, ♂ & ♀, with large breeding-organs, were brought late in the evening, with a nest, by a man who said he had caught them both after it got dark. He had seen the nest in a small tree in the *ékótók*, and put his hand over it. The nest was large enough to accommodate both birds, and shallow; but it may have been flattened and disarranged by the man's hand. No eggs were brought, but dissection shewed that the female bird had recently laid two.

ALETHE CASTANEA. (Plate XII. fig. 8, egg.)

Sharpe, *Ibis*, 1902, p. 94; 1908, p. 127.

A bird of this species, which proved to be an incubating female, was brought alive with a nest and one egg. The nest was flat or saucer-shaped, without any finished rim, and was made of fine rootlets with a little moss, bits of bark, and earth intermixed; the top layer was formed of ink-black rootlets, and the dark colour of the egg was in keeping with the colour of the nest and its surroundings, for the nest was said to have been found on the ground under the end of a decaying log in the forest.

The egg measured about 26×17 or 18 mm. It was somewhat broken, and could not be accurately measured.

[It is of a long oval form and almost devoid of gloss. The ground-colour is pale pinkish-white, nearly hidden by spots and blotches of rich maroon, light red, and dull lilac which cover the greater part of the shell.—W.R.O.-G.]

ALETHE COMPSONOTA.

Reich. V. A. iii. p. 746.

Geocichla compsonota Cassin, Pr. Philad. Acad. 1859, p. 42.

Alethe alexandri Sharpe, *Ibis*, 1902, p. 94; 1908, p. 126.

It was interesting to establish, from the type-specimen in the Museum of the Academy of Sciences of Philadelphia, the identity of the long-doubtful *Geocichla compsonota* of Cassin. Not only does the specimen itself shew this, but the description of *Geocichla compsonota* exactly fits *Alethe*

alexandrii, with the one exception of the length of the wing: in the type-specimen that is 93 mm., which agrees with *Alethe alexandrii*; but in Cassin's description it is given as "4 $\frac{3}{4}$ inches" (=120 mm.). This is evidently a mistake for 3 $\frac{3}{4}$ inches.

TURDINUS FULVESCENS. [Akalat.] (Plate XII. figs. 1-4, eggs.)

Reich. V. A. iii. p. 736.

Turdirostris fulvescens Cass. Pr. Philad. Acad. 1859, p. 54.

Turdinus cerviniventris Sharpe, Ibis, 1908, p. 119; Grant, Trans. Zool. Soc. xix. p. 379.

An examination of the type in the Museum of the Academy of Sciences of Philadelphia has shewn that Cassin's *Turdirostris fulvescens* is the species with no pure white on the under parts.

Nos. 3614, 3875, 4321, and another bird not saved, were females, evidently sitting, and brought in with the nests on which they were caught or shot with bow and arrow. No. 3978 was a male with very large testes, that had been shot with bow and arrow on the nest, early in the morning; the eggs that came with this bird and nest are Nos. 396, 397.

These nests were loosely made shallow cups of large leaves, more or less wet and decaying, with a few fine stems, fibres, or tendrils inside. They were found on low bushes on the borders of the forest, at all times of the year except in the driest season. The eggs in every nest were two in number; they vary in length from 20 to 23.5 mm., and in width from 15 to 16.5 mm.

[Eggs of this species vary very much in shape, markings, and colour; some are of a long oval form and others of a short blunt oval shape; they are slightly glossy. The ground-colour varies from pinkish-white or creamy-white to pure white; some have a few rather large spots and blotches of bright maroon and purplish-grey rather sparingly scattered all over the shell; in others the entire shell is densely mottled and spotted with rather fine markings of

the same colour ; in others, again, the markings are browner and less bright. One specimen has large blotches of dull purplish-grey underlying the small mottlings, and in two very blunt eggs there is a distinct zone or cap of deep chestnut-maroon surrounding the apex at the larger end.—W. R. O.-G.]

TURDINUS BATESI. [Akalat.] (Plate XII. fig. 5, egg.)
Sharpe, Ibis, 1902, p. 94 ; 1908, p. 117.

This is a *Turdinus*, not an *Alethe* as Reichenow has it. This is evident, not only from its appearance and habits, which are like those of the other species of *Turdinus*, but from the structural characters given in the 'Vögel Afrikas,' for the 5th, 6th, and 7th primary-quills are the longest and the 4th is considerably shorter.

A young bird (No. 3069) with the plumage not grown has no spots on the plumage like the young of *Alethe* ; some of the wing-coverts are of a scarcely discernible lighter shade at the tips ; the chest is dark brown, and the feathers of the breast and abdomen have dark brown edges, forming slight cross-bars.

Two sitting females (Nos. 4001 and 4128) were brought with their nests and eggs. The nests were merely loose piles of dead leaves with a few stems and rootlets, said to have been found on the ground in the forest ; each contained two eggs. Those of one clutch (Nos. 406, 407) were extremely long (20×16 and 24.5×15.5 mm.), and when the small embryo had been removed from each there came out of the smaller end of the egg another opaque mass which may have been a second abortive embryo. The other eggs (Nos. 455, 456) both measure 23.5×17 mm.

[These eggs are of a long oval shape, very slightly glossed, and have the ground-colour white or pale pinkish-white, with small spots and irregular blotches and markings of dull maroon and dark purplish-grey scattered all over the shell. In two specimens they are more numerous towards the larger end and form an irregular cap or zone.—W. R. O.-G.]

COSSYPHA CYANOCAMPTA. [Angôkôn.] (Plate XII. figs. 6 & 7, eggs.)

Sharpe, Ibis, 1905, p. 474; 1908, p. 125.

I can speak more certainly now than I could in my former note ('Ibis,' 1905, p. 474) about the strange and sweet notes of the Angôkôn; for after looking for it many times when I heard it in the thickets of the *bikôtôk*, I at last saw it. This bird is a very perfect imitator of other birds; often one seems to hear a Cuckoo, for instance, but presently the voice changes, and you know that it is an Angôkôn. Late one evening when it was growing dark, and all sounds save those of night creatures had long ceased, I heard several short snatches of song by an Angôkôn, from a thicket near by; is this bird acquiring the habit of its relative, the bird that "sings darkling"? It is interesting to note, too, that its eggs look like those of the Nightingale.

Four nests of this species, identified by the sitting birds caught in them, have been found by boys in the dark thickets which are the haunt of the bird. They were loosely built of decaying leaves and stems, with a few fibres inside. The number of eggs in each was two, but in every case one was broken; the eggs varied from 22 to 23.5 mm. in length, and from 15 to 16.5 mm. in width.

[They are of a long oval form and distinctly glossy, the ground-colour varies from rather bright greenish-blue to pale bluish-green, and is more or less obscured by dull indistinct mottlings and cloudings of rufous or lilac-grey, which are concentrated towards the larger end.—W. R. O.-G.]

COSSYPHA VERTICALIS. [Angôkôn.]

Reich. V. A. iii. p. 761.

Cossypha melanonota Sharpe, Ibis, 1908, p. 124.

My specimens have certainly, on the whole, darker backs than specimens of *C. verticalis* from the Gold Coast; but, as Dr. Sharpe pointed out, both these and the Gold-Coast birds vary in that respect, and are not clearly separable.

This Angôkôn is rarer than the other, and I do not know whether it sings or not.

A sitting female (No. 3891) was brought in with a nest, which the boy found on the top of a decaying stump. The nest was a rather loose mass of rootlets, small stems, and husks of maize, all mixed with fine earth, damp and black. The one egg received (No. 321) (the other had been broken) measures 24×16 mm.

[It is of a long oval shape, glossy, and uniform dull olive-green in colour.—W. R. O.-G.]

APPENDIX.

Two subjects on which observations have been made can be better treated separately here than in scattered remarks under the different species of birds. One refers to some small points in the pterylography of certain groups of Passerine birds; the other to the kind of insect-food on which the birds live.

I. The observations on pterylography were mostly made on skins turned inside out, in the process of preparation, but were verified in many cases by examination of the outer side and of nestling birds.

(1) *Space in the "saddle" in certain Ploceidæ.*

In the genera *Ploceus* and *Malimbus* there seems to be always present a small bare or sparsely-feathered space within the enlarged portion or "saddle" of the spinal-feather tract. This space is usually small; the largest one observed was in the specimen of *Ploceus batesi* (No. 4268). In the two examples of *C. amaurocephalus* a few small and scattered semiplumes were found upon it.

Besides the species already mentioned and that figured (text-fig. 21, B, p. 629), the following have been examined—usually more than one specimen of each—and found to have this space: *Ploceus nigricollis*, *P. ocularius*, *P. cucullatus*, *Malimbus malimbicus*, *M. nitens*, *M. rubricollis*, and *M. cassini*. Many specimens belonging to other genera of the Ploceidæ were examined and found to have no such space in the saddle of the spinal tract; it is a character confined, so far as my observations go, to the two genera named.

(2) *Gap in the Spinal Tract in certain Sylviidæ.*

In certain genera forming a very natural group, largely African, of which *Cisticola* may be taken as typical, there is a marked gap in the spinal tract immediately behind the saddle, and the lower end of the saddle itself is often emarginate or cordate in outline. This gap is sometimes entirely without feathers of any kind, but usually bears a few small semiplumes in a more or less regular row, but no contour-feathers. It extends from the saddle halfway to the oil-gland. The specimen of *Calamocichla rufescens* figured had a few semiplumes on this part. Specimens of *Camaroptera griseoviridis* had not even the semiplumes, but had a perfectly bare gap from the saddle for 5 mm. in the direction of the tail. The same was true in the one specimen examined of *Bathmedonia rufa* and in one of *Macrosphenus concolor*. In a half-fledged specimen of *Prinia mystacea* there was a perfectly bare gap extending for 10 mm.—a long way in so small a bird; but in adults of the same species the corresponding portion bore a few small semiplumes.

Besides the species already mentioned, the following were examined—generally more than one specimen of each—and found to have this gap:—*Cisticola erythrops*, *Burnesia bairdi*, *B. leucopogon*, *Apalis binotata*, *Macrosphenus flavicans*, *Camaroptera superciliaris*, *Sylviella virens*, *S. denti*, and *Eremomela badiceps*.

Some other species of small birds somewhat similar to the above, and generally placed near to them, were found to be *without* such a gap in the spinal feather-tract. Among these may be mentioned *Phylloscopus trochilus*, *Stiphronis xanthogaster*, and *Hylia prasina*; in these the spinal tract, though narrow behind the saddle, was continuous, bearing contour-feathers all the way.

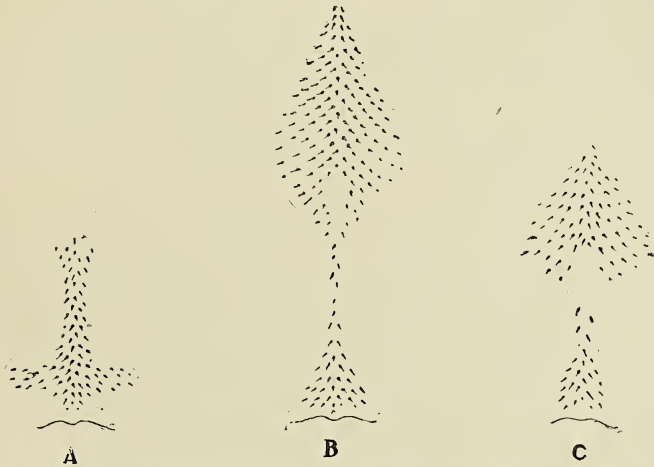
The gap here described is doubtless a degeneration of the portion of the spinal tract most clearly overlapped by the long and abundant plumage of the saddle. But in birds of other groups examined in which the feathers of the saddle

are equally long and abundant, the part of the spinal tract behind it is unbroken, bearing contour-feathers which take their places in the midst of those springing from the saddle.

(3) *Branching End of the Spinal Tract in the Pycnonotidæ.*

In most Passerine birds the spinal feather-tract is only gradually and slightly widened at its hinder end, just in front of the oil-gland. In all Pycnonotidæ which I have

Text-fig. 21.



A. Portion of the spinal feather-tract of *Pycnonotus gabonensis*. B. Spinal feather-tract of *Ploceus nigerrimus*. C. Spinal feather-tract of *Calamocichla rufescens*. (See Appendix, pp. 627, 628.)

examined, the hinder end of the spinal tract extends laterally into a pair of short branches, one on each side, together forming a short transverse band. The feathers composing these branches are all very short, most of them being merely semiplumes; but some that stand nearest to the main tract are long enough, in some birds, to reach the light, thus being contour-feathers.

These lateral branches were very marked in all specimens

belonging to the genus *Phyllostrophus*—more so even, in some of them, than in the specimen of *Pycnonotus gabonensis* figured (text-fig. 21, p. 629). In all species of *Andropadus* and particularly in *A. virens*, the lateral branches were found to be weak, consisting of a few small semiplumes only. The following is a list of the species in which the end of the spinal tract was found to be branched; generally more than one specimen of a species was examined:—*Criniger chloronotus*, *C. calurus*, *Bleda synductyla*, *B. tricolor*, *Phyllostrophus simplex*, *P. flavigula*, *P. falkensteini*, *P. leucopleurus*, *Andropadus indicator*, *A. clamans*, *A. gracilirostris*, *A. gracilis*, *A. virens*, *A. latirostris*, *Pycnonotus gabonensis*, *Ixonotus guttatus*.

No adult bird of the Family Pycnonotidæ was found to be entirely without these transverse branches at the end of the spinal tract; and no bird of any other family was found to have them. It should be added that they were not usually apparent in nestlings.

II. Do the Birds of Southern Cameroon eat Butterflies?

The question in regard to birds feeding on butterflies is of interest to ornithologists as well as to entomologists. I believe that the birds of the West African forest do not feed to any great extent on butterflies. This belief is not based merely on the fact that I have not seen them do so, for such merely negative evidence is of little value. It is based on the fact that the stomachs of a large number of birds examined were without any remains of butterflies that were identified as such. During half a dozen years in which I kept records of a considerable proportion of all birds skinned, not only as to whether fruits, or seeds, or insects were found in the stomachs, but also the kinds of insects found when these could be easily made out, I never recorded a single instance of finding a butterfly or part of one; and during several months, when my attention was particularly directed to that matter, I recorded in the cases of 178 insect-eating birds, the stomachs of which were examined, that nothing looking like remains of butterflies

EXPLANATION OF PLATE XI.

Figures of the Eggs of West African Birds.

[The numbers in brackets are those of the eggs, as marked on the egg-shell.]

- Fig. 1. *Pycnonotus gabonensis*, p. 604. (No. 511.)
 Fig. 2. " " " (No. 229.)
 Fig. 3. *Criniger calurus*, p. 597. (No. 344.)
 Fig. 4. *Pycnonotus gabonensis*, p. 604. (No. 515.)
 Fig. 5. " " " (No. 502.)
 Fig. 6. *Andropadus virens*, p. 602. (No. 269.)
 Fig. 7. " " " (No. 448.)
 Fig. 8. *Pyromelana flammiceps*, p. 589. (No. 189.)
 Fig. 9. *Andropadus virens*, p. 602. (No. 520.)
 Fig. 10. *Phyllostrophus flavigula*, p. 600. (No. 349.)
 Fig. 11. *Emberiza cabanisi*, p. 596. (No. 453.)
 Fig. 12. *Phyllostrophus simplex*, p. 599. (No. 340.)
 Fig. 13. " " " (No. 278.)
 Fig. 14. " " " (No. 457.)
 Fig. 15. " *falkensteini*, p. 598. (No. 188 A.)
 Fig. 16. *Cinnyris verticalis*, p. 608. (No. 462.)
 Fig. 17. *Andropadus latirostris*, p. 602. (No. 134.)
 Fig. 18. " " " (No. 325.)
 Fig. 19. " " " (No. 556.)
 Fig. 20. *Cinnyris obscurus*, p. 607. (No. 451.)
 Fig. 21. " " " (No. 506.)
 Fig. 22. " *batesi*, p. 606. (No. 476.)
 Fig. 23. " *minullus*, p. 610. (No. 487.)
 Fig. 24. " *chloropygius*, p. 609. (No. 454.)
 Fig. 25. " " " (No. 490.)
 Fig. 26. " " " (No. 414.)
 Fig. 27. " *obscurus*, p. 607. (No. 167.)



H. Grönvold, pinx.

C. Hodges & Son, lith.

FIGURES OF EGGS OF WEST AFRICAN BIRDS.

EXPLANATION OF PLATE XII.

Figures of the Eggs of West African Birds.

[The numbers in brackets are those of the eggs, as marked on the egg-shell.]

- Fig. 1. *Turdinus fulvescens*, p. 624. (No. 518.)
 Fig. 2. " " " (No. 286.)
 Fig. 3. " " " (No. 226.)
 Fig. 4. " " " (No. 225.)
 Fig. 5. " *batesi*, p. 625. (No. 455.)
 Fig. 6. *Cossypha cyanocampta*, p. 626. (No. 393.)
 Fig. 7. " " " (No. 265.)
 Fig. 8. *Alethe castanea*, p. 623. (No number.)
 Fig. 9. *Burnesia leucopogon*, p. 615. (No. 391.)
 Fig. 10. " " " (No. 314.)
 Fig. 11. " *bairdi*, p. 615. (No. 375.)
 Fig. 12. " " " ("m.")
 Fig. 13. *Camaroptera griseoviridis*, p. 619. (No. 389.)
 Fig. 14. *Cisticola erythrops*, p. 612. (No. 126.)
 Fig. 15. *Apalis binotata*, p. 618. (No. 525.)
 Fig. 16. *Calamocichla rufescens*, p. 613. (No. 592.)
 Fig. 17. *Sylviella denti*, p. 621. (No. 62.)
 Fig. 18. *Cisticola erythrops*, p. 612. (No. 254.)
 Fig. 19. " " " (No. 85.)
 Fig. 20. " " " (No. 239.)
 Fig. 21. " " " (No. 352.)
 Fig. 22. " " " (No. 306.)
 Fig. 23. " " " (No. 571.)



H. Grönvold, pinx.

C. Hodges & Son, lith.

FIGURES OF EGGS OF WEST AFRICAN BIRDS.

was found. Even though the wings of the butterflies had been removed and the bodies crushed in swallowing, yet some characteristic part, as the head with the curled proboscis, or the peculiar legs or abdomen, would sometimes have been recognized if they had frequently been present, at least when I was particularly looking for them.

For its bearing on the point above mentioned, as well as for its more general interest, a summary of a count of the entries in my note-books during six years, of the different kinds of insects and similar small creatures found in birds' stomachs, is here given. Larvæ of insects were not counted.

Coleoptera were recognised and recorded in 213 stomachs ; Orthoptera in 177 ; Ants in 57 (mostly in stomachs of birds of the genus *Dendromus*) ; other Hymenoptera in 8 ; Cocci in 32 ; Rhynchota in 19 ; Termites in 31 ; Slugs and Snails in 24 ; Spiders in 85 (mostly stomachs of Sunbirds) ; Millipedes in 20 ; some other kinds of insects or small animals each in one or two stomachs ; Butterflies in none !

SUPPLEMENTARY NOTE.

Since writing the first part of this paper (see above, p. 479) I have had the great pleasure of a short visit to the Museum of the Academy of Sciences of Philadelphia, where, with the very kind and cordial assistance of Mr. Witmer Stone, I was enabled to see the types of some of Cassin's species. In the preceding pages appear the results of my examination of the types of *Turdirostris fulvescens* and *Geocichla compsonota*. But regarding two birds belonging to Part I. of this paper, which was then already in the press, I take this opportunity of reporting as follows:—

A comparison of one of my specimens of *Alseonax olivascens* (see above, p. 522) with Cassin's type leaves no doubt that it is identical with Cassin's *Parisoma olivascens*. An examination of the type of Cassin's *Butalis epulatus* likewise shews that it is Sharpe's *Alseonax fantisiensis* (see above, p. 521).